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Prepared for:

WCA of North Carolina
421 Raleigh View Road
Raleigh, NC 27610

JEI Project Number 710, Task 05

Carmen Johnson

Scanned by <i>[Signature]</i>	Date <i>10/8/12</i>	Doc ID # RCO
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92-31

**SECOND SEMIANNUAL GROUNDWATER MONITORING
REPORT OF 2005
MATERIAL RECOVERY, LLC
CONSTRUCTION AND DEMOLITION LANDFILL
WAKE COUNTY, NORTH CAROLINA**

May 2006

Prepared by:



2301 West Meadowview Road, Suite 203
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(336) 323-0092



Waste Industry Experts

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May 12, 2006

Mr. Ethan Brown
Division of Waste Management/Solid Waste Section
1647 Mail Service Center
Raleigh, NC 27699-1646

**RE: Second Semiannual Groundwater Monitoring Report of 2005
Material Recovery, LLC, C&D Landfill
Permit No. 92-31
JEI Project No. 710, Task 05**



Dear Ethan:

Enclosed is a report of the laboratory analytical results for the water quality monitoring conducted in December 2005 at WCA's Material Recovery, LLC, Construction and Demolition Landfill. In accordance with the Groundwater Monitoring Plan, monitoring wells MW-1, -2, -3, -4, and -5 and surface water points SW-1, -2, and -3 were sampled on December 27, 2005. The samples were sent to Environmental Conservation Laboratories, Inc. and analyzed for the NC Appendix I list of volatile organic compounds and the eight RCRA metals. Dissolved barium in MW-3 and dissolved lead in MW-5 were also analyzed.

A summary of the detected constituents for the site is included as Table 1. No organic constituents were detected above their respective laboratory reporting limits during the December 2005 event. Three inorganic constituents were detected above the laboratory reporting limits during the December 2005 event. Barium was detected in MW-2 and MW-3, at concentrations consistent with previous results. Chromium was detected in MW-5 for the first time but was much lower than NC 2L Drinking Water and EPA MCL Standards. Lead was also detected in MW-5 at a concentration consistent with previous results. Barium in MW-3 and lead in MW-5 were detected at concentrations above their respective NC 2L Drinking Water and EPA MCL Standards. Previous data suggest that turbidity may be a factor in the relatively high concentrations of total metals.

A summary of groundwater elevations is included as Table 2. The field information forms, a site plan map, and a compact disc containing the laboratory report for this event are also enclosed in this report. The next semiannual monitoring event is scheduled to take place in June 2006. If you have any questions, please feel free to contact me at (336) 323-0092.

Sincerely,
JOYCE ENGINEERING, INC.

Jeremy J. Kerly
Staff Hydrogeologist

Enclosure

Cc: Vernon Smith – WCA of North Carolina, L.P.
Wilbert Carter – Material Recovery, LLC, C&D Landfill
File

**WCA of North Carolina, L.P.
Material Recovery, LLC, C&D Landfill
Second Semiannual Groundwater Monitoring Report of 2005**

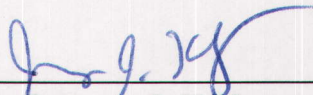
May 2006

Prepared by:

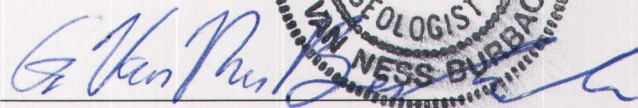


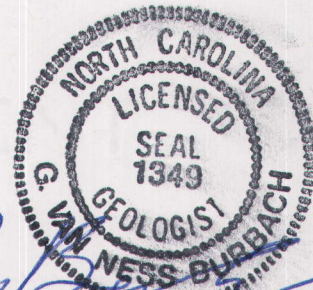
2301 West Meadowview Road, Suite 203
Greensboro, North Carolina 27407

Prepared by:


Jeremy J. Kerly

Supervised & Reviewed by:


G. Van Ness Burbach, Ph.D., P.G.
NC License # 1349



Tables

TABLE 1
SUMMARY OF DETECTED CONSTITUENTS
MATERIAL RECOVERY, LLC, C AND D LANDFILL

Parameter [NC 2L Standard], [EPA MCL] in µg/L	Date	CONCENTRATION (µg/L)										
		RL	MW-1	MW-2	MW-3	MW-4	MW-5	SW-1	SW-2	SW-3	Blanks	
arsenic [10] [10]	May-02	10	—	—	—	—	—	—	ND	—	ND	
	Aug-02	10	ND	ND	ND	ND	ND	—	—	ND	ND	
	Jun-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
barium (total) [2000] [2000]	May-02	500	—	—	—	—	—	—	ND	—	ND	
	Aug-02	500	ND	ND	4000	ND	ND	—	—	ND	ND	
	Jun-03	500	ND	ND	3100	ND	ND	ND	ND	ND	ND	
	Dec-03	500	160	420	1200	120	120	ND	ND	230	ND	
	Jun-04	500	ND	540	1500	ND	ND	ND	ND	ND	ND	
	Dec-04	500	ND	570	3100	ND	ND	ND	ND	ND	ND	
	Jun-05	500	ND	520	2600	ND	ND	ND	ND	ND	ND	
	Jun-05	500	—	—	2700	—	—	—	—	—	—	
barium (dissolved)	Dec-05	500	ND	640	5700	ND	ND	ND	ND	ND	ND	
	Dec-03	500	—	—	1000	—	—	—	—	—	—	
	Jun-04	500	—	—	1400	—	—	—	—	—	—	
	Dec-05	500	—	—	5900	—	—	—	—	—	—	
	cadmium [1.75] [5]	May-02	1	—	—	—	—	—	—	ND	—	ND
		Aug-02	1	1.4	1.1	1.8	1.2	1.0	—	—	1.6	ND
Jun-03		1	1.2	1.1	1.7	1.8	3.4	1.0	ND	1.1	ND	
Dec-03		1	ND	1.3	ND	ND	ND	ND	ND	ND	ND	
Jun-04		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dec-04		1	ND	ND	ND	ND	1.1	ND	ND	ND	ND	
Jun-05		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dec-05		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	
chromium [50] [100]	May-02	10	—	—	—	—	—	—	ND	—	ND	
	Aug-02	10	ND	ND	ND	ND	ND	—	—	ND	ND	
	Jun-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-05	10	ND	ND	ND	ND	15	ND	ND	ND	ND	
lead (total) [15] [15"]	May-02	10	—	—	—	—	—	—	ND	—	ND	
	Aug-02	10	ND	ND	ND	ND	19	—	—	ND	ND	
	Jun-03	10	ND	ND	ND	ND	21	ND	ND	ND	ND	
	Dec-03	10	ND	ND	ND	ND	34	ND	ND	ND	ND	
	Jun-04	10	ND	ND	ND	ND	15	ND	ND	ND	ND	
	Dec-04	10	ND	ND	ND	ND	62	ND	ND	ND	ND	
	Jun-05	10	ND	ND	ND	ND	92	ND	ND	ND	ND	
	Jun-05	10	—	—	—	—	ND	—	—	—	—	
	Dec-05	10	ND	ND	ND	ND	81	ND	ND	ND	ND	
lead (dissolved)	Dec-03	10	—	—	—	—	ND	—	—	—	—	
	Jun-04	10	—	—	—	—	ND	—	—	—	—	
	Dec-05	10	—	—	—	—	ND	—	—	—	—	
mercury [1.1] [2]	May-02	—	—	—	—	—	—	—	—	—	—	
	Aug-02	0.5	ND	ND	ND	ND	ND	—	—	ND	ND	
	Jun-03	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-03	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-04	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-04	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Jun-05	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	Dec-05	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 1
SUMMARY OF DETECTED CONSTITUENTS
MATERIAL RECOVERY, LLC, C AND D LANDFILL

Parameter [NC 2L Standard], [EPA MCL] in µg/L	Date	CONCENTRATION (µg/L)									
		RL	MW-1	MW-2	MW-3	MW-4	MW-5	SW-1	SW-2	SW-3	Blanks
selenium [50] [50]	May-02	20	—	—	—	—	—	—	ND	—	ND
	Aug-02	20	ND	ND	ND	ND	ND	—	—	ND	ND
	Jun-03	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-03	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-04	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-04	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-05	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-05	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
silver [18] [100]	May-02	10	—	—	—	—	—	—	ND	—	ND
	Aug-02	10	ND	ND	ND	ND	ND	—	—	ND	ND
	Jun-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes [530] [10000]	May-02	10	—	—	—	—	—	—	ND	—	ND
	Jun-03	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-03	10	5	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-04	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Jun-05	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Dec-05	5	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. RL = Reporting Limit
2. ND = Not detected at or above the reporting limit (=NCPQL)
3. — = not available
4. 2L Standard = North Carolina's groundwater quality standard established under 15A NCAC 2L, .0202.
5. Shaded values are greater than the 2L Standards.
6. Bolded values are greater than the EPA MCLs.
7. MW = monitoring well
8. SW = surface water
9. Blank data represent field blank, trip blank and laboratory blank values.
10. * = EPA Action Level
11. All concentrations are in micrograms per liter (µg/L).

TABLE 2
GROUNDWATER ELEVATION SUMMARY TABLE
MATERIAL RECOVERY, LLC, C AND D LANDFILL

Well No.	Monitoring Well Water Level Elevations				
	MW-1	MW-2	MW-3	MW-4	MW-5
Well TOC Elev. (ft)	280.95	213.37	218.54	201.52	203.38
Aug-02	252.98	195.37	191.13	186.43	191.82
Jun-03	258.29	197.10	195.09	191.72	193.45
Dec-03	258.17	197.55	195.62	191.88	194.13
Jun-04	257.17	196.89	194.54	191.12	193.43
Dec-04	256.71	196.85	193.93	190.70	193.38
Jun-05	256.73	196.40	193.41	190.13	193.01
Dec-05	254.10	196.16	191.64	189.84	193.38

Notes:

1. All elevations are referenced to mean sea level.
2. TOC = top of casing
3. Elev. = elevation
4. ft = feet

Drawing

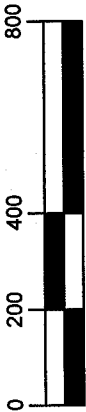
NOTES:
1. DIGITAL MAPPING PROVIDED BY SPATIAL DATA CONSULTANTS, INC. OF HIGH POINT, NORTH CAROLINA. DATE OF AERIAL FLYOVER WAS MARCH 27, 2001.
2. SURFACE MONITORING POINT LOCATIONS ARE APPROXIMATE.

LEGEND:

- EXISTING 10 FT. TOPOGRAPHIC CONTOUR
- EXISTING 2 FT. TOPOGRAPHIC CONTOUR
- APPROXIMATE LIMITS OF WASTE
- APPROXIMATE PROPERTY LINE
- ROAD
- APPROXIMATE CENTERLINE OF STREAM
- GROUNDWATER MONITORING WELL LOCATION
- SURFACE WATER MONITORING POINT LOCATION



GRAPHIC SCALE



(FEET)

DATE	REVISIONS AND RECORD OF ISSUE	NO BY CK APP

L:\Material Recovery Facility LLC\dwg\Task 05 GR Report\Site Plan 01-05.dwg

DESIGNED	MO
DRAWN	CADD/RFB
CHECKED	JK
APPROVED	VB
DATE	01/20/06

JOICE
ENGINEERING, INC.
2301 W. MEADOWVIEW RD., SUITE 203
GREENSBORO, NC 27407
PHONE: (336) 325-0882
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PROJECT NO.	710.05
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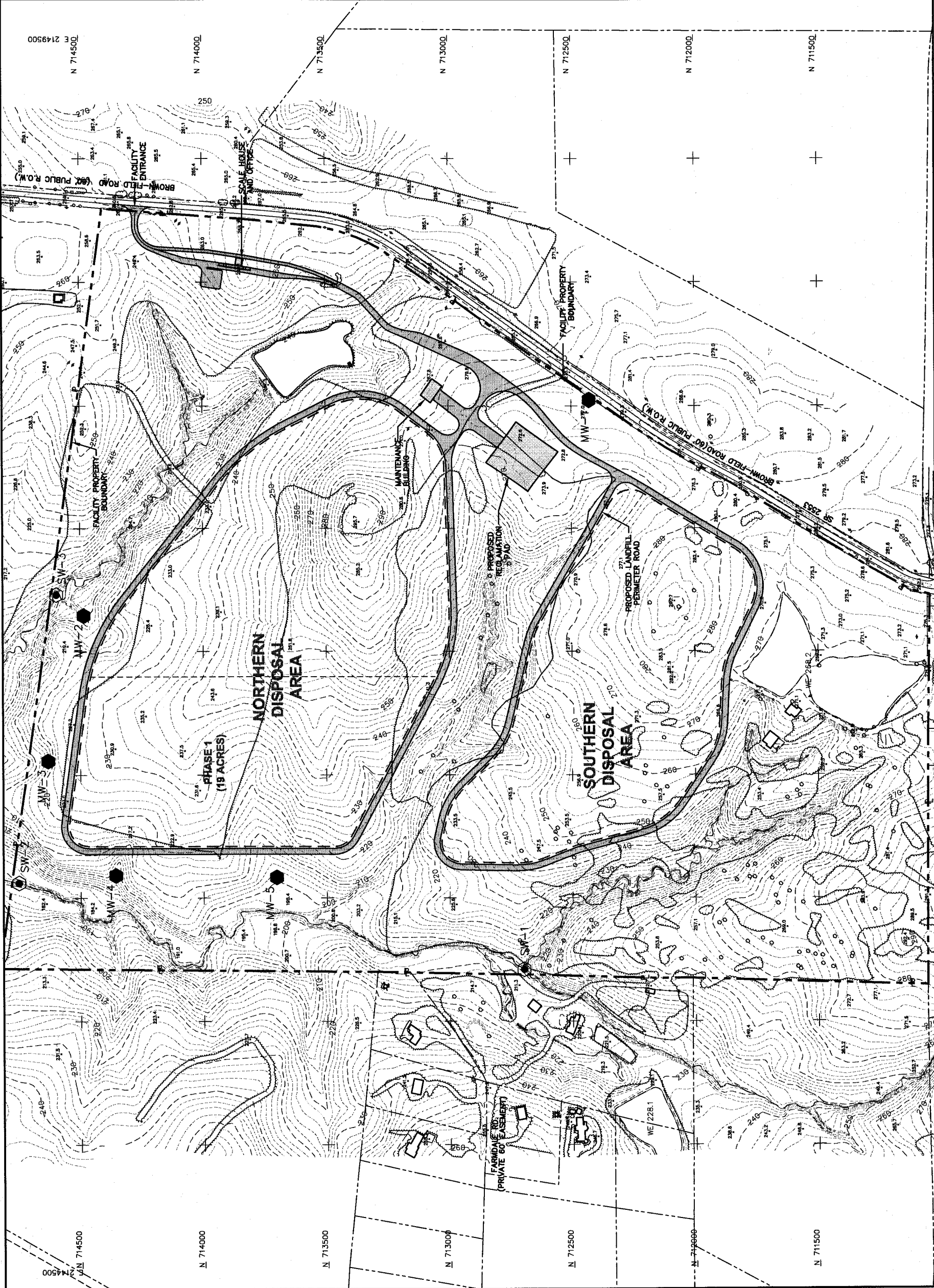
SCALE	1:400
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MATERIAL RECOVERY, LLC, C&D LANDFILL
WAKE COUNTY, NORTH CAROLINA

SITE PLAN

DRAWING NO.

1



Laboratory Reports and Field Data

Joyce Engineering
2301 West Meadowview Road
S-203
Greensboro, NC 27407

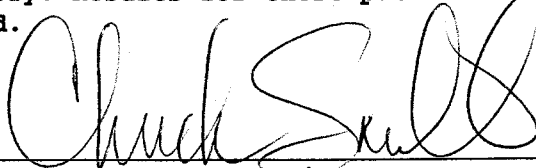
Report #: CRY19355
Submitted: 12/27/2005
Reported: 1/6/2006
Reference: 710.01
Page 2 of 11

SAMPLE IDENTIFICATION

Lab Sample ID	Client ID	Collection Date
CRY19355-1	MW-1	12/27/2005 09:59
CRY19355-2	MW-2	12/27/2005 12:45
CRY19355-3	MW-3	12/27/2005 12:45
CRY19355-4	MW-4 (MS/MSD)	12/27/2005 13:15
CRY19355-5	MW-5	12/27/2005 13:05
CRY19355-6	SW-1	12/27/2005 11:55
CRY19355-7	SW-2	12/27/2005 13:05
CRY19355-8	SW-3	12/27/2005 10:00
CRY19355-9	FIELD BLANK	12/27/2005 13:45
CRY19355-10	TRIP BLANK	

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002).

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.



Chuck Smith

Joyce Engineering
2301 West Meadowview Road
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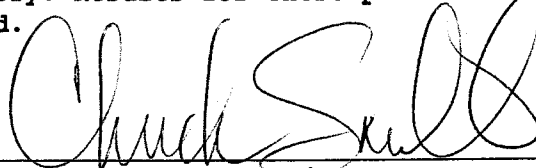
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Page 2 of 11

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CRY19355-5	MW-5	12/27/2005 13:05
CRY19355-6	SW-1	12/27/2005 11:55
CRY19355-7	SW-2	12/27/2005 13:05
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Chuck Smith

CASE NARRATIVE

Overview

None

Quality Control Samples

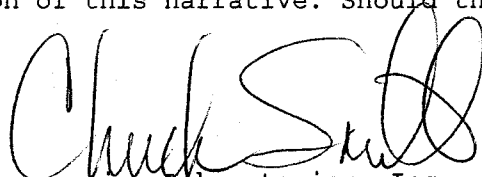
None

Other Comments

None

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package.

Released By:



Environmental Conservation Laboratories, Inc.
Chuck Smith

SAMPLE RESULTS

Parameter	RDL	Units	MW-1	MW-2	MW-3	MW-4 (MS/MSD)	MW-5
Lead	10	ug/L	ND	ND	ND	ND	81
Lead, filtered	10	ug/L	NR	NR	NR	NR	ND
Mercury	0.5	ug/L	ND	ND	ND	ND	ND
Arsenic	10	ug/L	ND	ND	ND	ND	ND
Barium	500	ug/L	ND	640	5700	ND	ND
Barium, filtered	500	ug/L	NR	NR	5900	NR	NR
Selenium	20	ug/L	ND	ND	ND	ND	ND
Silver	10	ug/L	ND	ND	ND	ND	ND
Cadmium	1	ug/L	ND	ND	ND	ND	ND
Chromium	10	ug/L	ND	ND	ND	ND	15

SAMPLE RESULTS

Parameter	RDL	Units	MW-1	MW-2	MW-3	MW-4 (MS/MSD)	MW-5
Ethylbenzene	5.	ug/L	ND	ND	ND	ND	ND
2-Hexanone	50.	ug/L	ND	ND	ND	ND	ND
Bromomethane	10.	ug/L	ND	ND	ND	ND	ND
Chloromethane	10.	ug/L	ND	ND	ND	ND	ND
Dibromomethane	10.	ug/L	ND	ND	ND	ND	ND
Methylene Chloride	10.	ug/L	ND	ND	ND	ND	ND
2-Butanone	100	ug/L	ND	ND	ND	ND	ND
Iodomethane	10.	ug/L	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	100	ug/L	ND	ND	ND	ND	ND
Benzene	5.	ug/L	ND	ND	ND	ND	ND
Styrene	10.	ug/L	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	5.	ug/L	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.	ug/L	ND	ND	ND	ND	ND
Tetrachloroethene	5.	ug/L	ND	ND	ND	ND	ND
Toluene	5.	ug/L	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5.	ug/L	ND	ND	ND	ND	ND
Trichloroethene	5.	ug/L	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5.	ug/L	ND	ND	ND	ND	ND
Trichlorofluoromethane	5.	ug/L	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	15.	ug/L	ND	ND	ND	ND	ND
Vinyl Acetate	50.	ug/L	ND	ND	ND	ND	ND
Vinyl chloride	10.	ug/L	ND	ND	ND	ND	ND
m-Xylene & p-Xylene	5.	ug/L	ND	ND	ND	ND	ND
o-Xylene	5.	ug/L	ND	ND	ND	ND	ND
Bromochloromethane	5.	ug/L	ND	ND	ND	ND	ND
Bromodichloromethane	5.	ug/L	ND	ND	ND	ND	ND
Acetone	100	ug/L	ND	ND	ND	ND	ND
Bromoform	5.	ug/L	ND	ND	ND	ND	ND
Carbon Disulfide	100	ug/L	ND	ND	ND	ND	ND
Carbon Tetrachloride	10.	ug/L	ND	ND	ND	ND	ND
Chlorobenzene	5.	ug/L	ND	ND	ND	ND	ND
Chloroethane	10.	ug/L	ND	ND	ND	ND	ND
Chloroform	5.	ug/L	ND	ND	ND	ND	ND
Dibromochloromethane	5.	ug/L	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	25.	ug/L	ND	ND	ND	ND	ND
1,2-Dibromoethane	5.	ug/L	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5.	ug/L	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5.	ug/L	ND	ND	ND	ND	ND
t-1,4-Dichloro-2-Butene	100	ug/L	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.	ug/L	ND	ND	ND	ND	ND
1,2-Dichloroethane	5.	ug/L	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.	ug/L	ND	ND	ND	ND	ND
C-1,2-Dichloroethene	5.	ug/L	ND	ND	ND	ND	ND
t-1,2-Dichloroethene	5.	ug/L	ND	ND	ND	ND	ND
Acrylonitrile	200	ug/L	ND	ND	ND	ND	ND
1,2-Dichloropropane	5.	ug/L	ND	ND	ND	ND	ND
c-1,3-Dichloropropene	10.	ug/L	ND	ND	ND	ND	ND
t-1,3-Dichloropropene	10.	ug/L	ND	ND	ND	ND	ND

SAMPLE RESULTS

Parameter	RDL	Units	SW-1	SW-2	SW-3	FIELD BLANK	TRIP BLANK
Lead	10	ug/L	ND	ND	ND	ND	NR
Lead, filtered	10	ug/L	NR	NR	NR	NR	NR
Mercury	0.5	ug/L	ND	ND	ND	ND	NR
Arsenic	10	ug/L	ND	ND	ND	ND	NR
Barium	500	ug/L	ND	ND	ND	ND	NR
Barium, filtered	500	ug/L	NR	NR	NR	NR	NR
Selenium	20	ug/L	ND	ND	ND	ND	NR
Silver	10	ug/L	ND	ND	ND	ND	NR
Cadmium	1	ug/L	ND	ND	ND	ND	NR
Chromium	10	ug/L	ND	ND	ND	ND	NR

SAMPLE RESULTS

Parameter	RDL Units	SW-1	SW-2	SW-3	FIELD BLANK	TRIP BLANK
Ethylbenzene	5. ug/L	ND	ND	ND	ND	ND
2-Hexanone	50. ug/L	ND	ND	ND	ND	ND
Bromomethane	10. ug/L	ND	ND	ND	ND	ND
Chloromethane	10. ug/L	ND	ND	ND	ND	ND
Dibromomethane	10. ug/L	ND	ND	ND	ND	ND
Methylene Chloride	10. ug/L	ND	ND	ND	ND	ND
2-Butanone	100 ug/L	ND	ND	ND	ND	ND
Iodomethane	10. ug/L	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	100 ug/L	ND	ND	ND	ND	ND
Benzene	5. ug/L	ND	ND	ND	ND	ND
Styrene	10. ug/L	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	5. ug/L	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5. ug/L	ND	ND	ND	ND	ND
Tetrachloroethene	5. ug/L	ND	ND	ND	ND	ND
Toluene	5. ug/L	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5. ug/L	ND	ND	ND	ND	ND
Trichloroethene	5. ug/L	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5. ug/L	ND	ND	ND	ND	ND
Trichlorofluoromethane	5. ug/L	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	15. ug/L	ND	ND	ND	ND	ND
Vinyl Acetate	50. ug/L	ND	ND	ND	ND	ND
Vinyl chloride	10. ug/L	ND	ND	ND	ND	ND
m-Xylene & p-Xylene	5. ug/L	ND	ND	ND	ND	ND
o-Xylene	5. ug/L	ND	ND	ND	ND	ND
Bromochloromethane	5. ug/L	ND	ND	ND	ND	ND
Bromodichloromethane	5. ug/L	ND	ND	ND	ND	ND
Acetone	100 ug/L	ND	ND	ND	ND	ND
Bromoform	5. ug/L	ND	ND	ND	ND	ND
Carbon Disulfide	100 ug/L	ND	ND	ND	ND	ND
Carbon Tetrachloride	10. ug/L	ND	ND	ND	ND	ND
Chlorobenzene	5. ug/L	ND	ND	ND	ND	ND
Chloroethane	10. ug/L	ND	ND	ND	ND	ND
Chloroform	5. ug/L	ND	ND	ND	ND	ND
Dibromochloromethane	5. ug/L	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	25. ug/L	ND	ND	ND	ND	ND
1,2-Dibromoethane	5. ug/L	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5. ug/L	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5. ug/L	ND	ND	ND	ND	ND
t-1,4-Dichloro-2-Butene	100 ug/L	ND	ND	ND	ND	ND
1,1-Dichloroethane	5. ug/L	ND	ND	ND	ND	ND
1,2-Dichloroethane	5. ug/L	ND	ND	ND	ND	ND
1,1-Dichloroethene	5. ug/L	ND	ND	ND	ND	ND
C-1,2-Dichloroethene	5. ug/L	ND	ND	ND	ND	ND
t-1,2-Dichloroethene	5. ug/L	ND	ND	ND	ND	ND
Acrylonitrile	200 ug/L	ND	ND	ND	ND	ND
1,2-Dichloropropane	5. ug/L	ND	ND	ND	ND	ND
c-1,3-Dichloropropene	10. ug/L	ND	ND	ND	ND	ND
t-1,3-Dichloropropene	10. ug/L	ND	ND	ND	ND	ND

SAMPLE RESULTS

Parameter	RDL	Units	Method	BLK
Lead	10	ug/L		ND
Lead, filtered	10	ug/L		ND
Mercury	0.5	ug/L		ND
Arsenic	10	ug/L		ND
Barium	500	ug/L		ND
Barium, filtered	500	ug/L		ND
Selenium	20	ug/L		ND
Silver	10	ug/L		ND
Cadmium	1	ug/L		ND
Chromium	10	ug/L		ND

SAMPLE RESULTS

Parameter	RDL	Units	Method	BLK
Ethylbenzene	5.	ug/L		ND
2-Hexanone	50.	ug/L		ND
Bromomethane	10.	ug/L		ND
Chloromethane	10.	ug/L		ND
Dibromomethane	10.	ug/L		ND
Methylene Chloride	10.	ug/L		ND
2-Butanone	100	ug/L		ND
Iodomethane	10.	ug/L		ND
4-Methyl-2-pentanone	100	ug/L		ND
Benzene	5.	ug/L		ND
Styrene	10.	ug/L		ND
1,1,1,2-Tetrachloroethane	5.	ug/L		ND
1,1,2,2-Tetrachloroethane	5.	ug/L		ND
Tetrachloroethene	5.	ug/L		ND
Toluene	5.	ug/L		ND
1,1,1-Trichloroethane	5.	ug/L		ND
Trichloroethene	5.	ug/L		ND
1,1,2-Trichloroethane	5.	ug/L		ND
Trichlorofluoromethane	5.	ug/L		ND
1,2,3-Trichloropropane	15.	ug/L		ND
Vinyl Acetate	50.	ug/L		ND
Vinyl chloride	10.	ug/L		ND
m-Xylene & p-Xylene	5.	ug/L		ND
o-Xylene	5.	ug/L		ND
Bromochloromethane	5.	ug/L		ND
Bromodichloromethane	5.	ug/L		ND
Acetone	100	ug/L		ND
Bromoform	5.	ug/L		ND
Carbon Disulfide	100	ug/L		ND
Carbon Tetrachloride	10.	ug/L		ND
Chlorobenzene	5.	ug/L		ND
Chloroethane	10.	ug/L		ND
Chloroform	5.	ug/L		ND
Dibromochloromethane	5.	ug/L		ND
1,2-Dibromo-3-chloropropane	25.	ug/L		ND
1,2-Dibromoethane	5.	ug/L		ND
1,2-Dichlorobenzene	5.	ug/L		ND
1,4-Dichlorobenzene	5.	ug/L		ND
t-1,4-Dichloro-2-Butene	100	ug/L		ND
1,1-Dichloroethane	5.	ug/L		ND
1,2-Dichloroethane	5.	ug/L		ND
1,1-Dichloroethene	5.	ug/L		ND
C-1,2-Dichloroethene	5.	ug/L		ND
t-1,2-Dichloroethene	5.	ug/L		ND
Acrylonitrile	200	ug/L		ND
1,2-Dichloropropane	5.	ug/L		ND
c-1,3-Dichloropropene	10.	ug/L		ND
t-1,3-Dichloropropene	10.	ug/L		ND

QUALITY CONTROL

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
DISSOLVED METALS					
Barium, 6010	113/119/114	72-125	74-119	4	11
Lead, 6010	103/106/102	72-121	68-126	4	19
TOTAL METALS					
Mercury, 7470	97/95/100	81-126	70-136	5	12
Silver, 6010	109/114/110	80-128	69-121	4	12
Arsenic, 6010	110/115/110	82-117	64-126	4	12
Barium, 6010	113/119/114	72-125	74-119	4	11
Cadmium, 6010	112/117/113	72-120	68-121	3	12
Chromium, 6010	108/114/110	78-119	73-120	4	17
Lead, 6010	103/106/102	72-121	68-126	4	19
Selenium, 6010	109/113/109	82-127	65-129	4	10
EPA METHOD APPENDIX I, 8260					
1,1-Dichloroethene	102/99/96	64-139	36-177	3	30
Benzene	96/86/87	69-115	53-150	1	23
Trichloroethene	100/93/91	74-118	64-124	2	25
Toluene	99/95/92	77-117	40-161	3	23
Chlorobenzene	107/96/95	76-118	44-128	1	22

SURROGATE RECOVERY

Lab Sample ID	Surrogate	% RECOVERY ACCEPT LIMITS	
CRY19355-1	Bromofluorobenzene	83	70-130
CRY19355-1	D8-Toluene	79	77-118
CRY19355-1	Dibromofluoromethane	87	73-138
CRY19355-2	Bromofluorobenzene	83	70-130
CRY19355-2	D8-Toluene	82	77-118
CRY19355-2	Dibromofluoromethane	87	73-138
CRY19355-3	Bromofluorobenzene	82	70-130
CRY19355-3	D8-Toluene	81	77-118
CRY19355-3	Dibromofluoromethane	87	73-138
CRY19355-4	Bromofluorobenzene	82	70-130
CRY19355-4	D8-Toluene	82	77-118
CRY19355-4	Dibromofluoromethane	87	73-138
CRY19355-5	Bromofluorobenzene	87	70-130
CRY19355-5	D8-Toluene	83	77-118
CRY19355-5	Dibromofluoromethane	90	73-138
CRY19355-6	Bromofluorobenzene	86	70-130
CRY19355-6	D8-Toluene	86	77-118
CRY19355-6	Dibromofluoromethane	89	73-138
CRY19355-7	Bromofluorobenzene	84	70-130
CRY19355-7	D8-Toluene	80	77-118
CRY19355-7	Dibromofluoromethane	85	73-138
CRY19355-8	Bromofluorobenzene	85	70-130
CRY19355-8	D8-Toluene	80	77-118
CRY19355-8	Dibromofluoromethane	86	73-138
CRY19355-9	Bromofluorobenzene	85	70-130
CRY19355-9	D8-Toluene	85	77-118
CRY19355-9	Dibromofluoromethane	86	73-138
CRY19355-10	Bromofluorobenzene	86	70-130
CRY19355-10	D8-Toluene	85	77-118
CRY19355-10	Dibromofluoromethane	89	73-138
V052LY1-1	Bromofluorobenzene	81	70-130
V052LY1-1	D8-Toluene	83	77-118
V052LY1-1	Dibromofluoromethane	87	73-138



ENVIRONMENTAL CONSERVATION LABORATORIES

QSARF # 1313

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Ph. (904) 296-3007 • Fax (904) 296-6210

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1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

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CHAIN OF CUSTODY RECORD

PROJECT NO. 710.0		P.O. NUMBER	
PROJECT LOC. (State) NC		PROJECT NAME	
SAMPLER(S) NAME		CLIENT PROJECT MANAGER	
J. Kelly / M. Osborne		Mr. Jeremy Kelly	
CLIENT NAME		Joyce Engineering	
CLIENT ADDRESS (CITY, STATE, ZIP)		2301 West Meadowview Road S-203 Greensboro, NC 27407	

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	MATRIX TYPE										REQUIRED ANALYSIS		PAGE	OF
						SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	AIR	SLUDGE	OTHER	NO APP 1 METALS	NO APP 1 VOCs	PREP. PRESERVATIVE	DATE Due:		
1	12-27-05	1220	X		MW-1	X								1	3	0	0	NC App 1 VOCs + RCRA Metals	1
2	12-27-05	0959	X		MW-2	X								1	3	0	0	NC App 1 VOCs + RCRA Metals & dissolved Barium	1
3	12-27-05	1245	X		MW-3	X								1	3	1	0	NC App 1 VOCs + RCRA Metals	1
4	12-27-05	1315	X		MW-4(MS/MSD)	X								1	6	0	0	NC App 1 VOCs + RCRA Metals	1
5	12-27-05	1335	X		MW-5	X								1	3	0	1	NC App 1 VOCs + RCRA Metals & dissolved Lead	1
6	12-27-05	1155	X		SW-1	X								1	3	0	0	NC App 1 VOCs + RCRA Metals	1
7	12-27-05	1305	X		SW-2	X								1	3	0	0		1
8	12-27-05	1000	X		SW-3	X								1	3	0	0		1
9	12-27-05	1345	X		FIELD BLANK	X								1	3	0	0		1
10	-	-			TRIP BLANK	X								0	3	0	0	NC App 1 VOCs	1
11																			1
12																			1
13																			1
14																			1

SAMPLE KIT PREPARED BY: J. Kelly	DATE: 12/27/05	TIME: 10:30	RELINQUISHED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:15	RECEIVED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	REMARKS: Chain covers 1 cooler. 2°C
CLACKSONVILLE	ORLANDO								
RELINQUISHED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:15	RECEIVED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	RELINQUISHED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	
RECEIVED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	RELINQUISHED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	RECEIVED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	
RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	CUSTODY INTACT	ENCO LOG NO. ORN355	REMARKS: Chain covers 1 cooler. 2°C	RECEIVED BY: (SIGNATURE)	DATE: 12/27/05	TIME: 15:00	

Environmental Conservation Laboratories, Inc.

Login Sample Disposition Form

Client Name: Joyce Engineering Login #: CR419355

Proj. Name: WCA Material Recovery Date Rec'd: 12-27-05 Logged By: AM

Samples received via: Client Drop-off Lab Pickup Courier LIST AND ATTACH BILLS

Container Descriptions and Preservation

Indicate preserv. type and # of each

Containers	None	HCl	HNO ₃	H ₂ SO ₄	NaOH	Other
1 L Glass	✓					
1 L Plastic	✓					
500 ml Plastic			1			
250 ml Plastic			8			
250 ml Glass	✓					
4 oz Jars	✓					
40 ml Vial		33				
Other	✓					

Receiving Temperatures

Total Number of Coolers:

Cooler Number	Receipt Temperature		
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice
	2-6°	On Ice	No Ice

Provide details of "No Ice" in Notification/Comments.

Sample Receipt Disposition

- | | | | |
|--|------------|----|-----|
| 1. Were sample containers received intact? | <u>Yes</u> | No | |
| 2. Were sample containers properly preserved? | <u>Yes</u> | No | |
| 3. Were proper containers used for analyses requested? | <u>Yes</u> | No | |
| 4. Do sample labels match Chain-of-Custody record? | <u>Yes</u> | No | |
| 5. Were samples received under custody seal? | <u>Yes</u> | No | |
| 6. If received under custody seal, were all seals intact? | <u>Yes</u> | No | N/A |
| 7. Were volatile containers preserved (check labels only)? | <u>Yes</u> | No | N/A |
| 8. Were aqueous volatile samples headspace-free? | <u>Yes</u> | No | N/A |
| 9. Were aqueous samples checked for residual chlorine? | <u>Yes</u> | No | N/A |
| 10. Were all samples specified in the prelog received? | <u>Yes</u> | No | N/A |

Any discrepancies must be noted below and approved by lab management.

Client Notification

1. Does client need to be notified? Yes No
2. Who notified client? _____
3. Who was notified? _____
4. When? _____ by: Phone Fax Mail
5. Client requests following action(s) be taken:
- _____ Continue analysis and report disposition in final report.
- _____ Cancel affected analyses only (identify in comments below).
- _____ Cancel all analyses.
- _____ Other (explain in comments below).

Comments

Project Status

- _____ Samples received into lab.
- _____ Samples rejected

CS
APPROVED BY
DATE 12/28/05



DATE: 12-27-05

GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Task No.: 710.05

Well ID: mw-1 Sampler(s): J. Kerly / M. Osborne

Well Location: On left side of Brownfield Rd between the 2 gates

Well Diameter: 2 inches

Initial Depth to Water (DTW): 26.85 feet

Depth to Bottom (DTB): 52.75 feet

Water Column Thickness (WCT): 25.90 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 4.22 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 12.66 gallons

Actual Amount Purged/Bailed : 12.66 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling: 26.80 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	9:00	16.6	5.91	107.9	2.59	MO
4.22	9:10	16.8	5.32	83.9	697	MO
8.44	9:20	17.1	5.13	96.9	751	MO
12.66	9:27	16.9	5.06	91.2	638	MO
Before Sampling	12:20	16.7	5.19	94.8	33.3	MO

Comments (weather conditions, odor, color, silt, etc.):_____

12/27/05: Mostly cloudy, cool, 40's, slight odor

* Parameters taken after Sampling

Signature: Matthew Osborne Date: 12/27/05

QA/QC Sign Off: R. 24 Date: 12-30-05

GROUNDWATER MONITORING WELL MAINTENANCE RECORDFACILITY: WCA Material Recovery, LLC PERMIT NO. 92-31LOCATION: MW-1 DATE: 12/27/05INSPECTOR: Matthew Osborne COMPANY: Joyce Engineering

1. Is surface water diverted away from the well head? NO
2. Is the concrete pad still intact and free of cracks? Pad buried
3. Has surface water runoff undercut the concrete pad? NO
4. Is the outer casing still secure and locked? YES
5. Is the well identification tag present and is it legible? YES
 - 5a. Does the well identification tag provide the following information:
 - . The well identification number? YES
 - . Drilling contractor name and registration number? YES
 - . Total depth of well? NO
 - . Depth to screen? YES
 - . A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES
6. Is the grout between the inner and outer well casings all the way to the ground surface? YES
7. Is the inner casing firmly grouted in place? YES
8. Are the inner and outer casings upright and unobstructed? YES
9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO
10. Is the monitoring well accessible by a four-wheel drive vehicle? YES
11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES
12. Does the inner well casing have a vented cap? YES
13. Is the monitoring well visible and adequately protected from moving equipment?
Visible but not protected

DATE: 12/27/05

GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC **Project No./Task No.:** 710.05

Well ID: mw-2 Sampler(s): J. Kerly / M. Osborne

Well Location: Northeast side of landfill in low area.

Well Diameter: 2 inches

Initial Depth to Water (DTW): 17.21 feet

Depth to Bottom (DTB): 35.00 feet

Water Column Thickness (WCT): 17.79 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.90 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 8.70 gallons

Actual Amount Purged/Bailed : 8.70 gallons

Purged with: Disposable Bailer

Sampled with: " "

Depth to Water before Sampling : 17.20 feet

Gallons	Time	Temp(°C)	pH	Cond. (μS)	Turb.(ntu)	Initials
0	0941	17.3	5.05	273	14.1	99K
2.90	0947	17.0	5.01	325	44.8	99K
5.80	0952	16.9	5.03	328	45.2	99K
8.70	0959	16.9	5.04	325	21.4	99K
Before Sampling	0959	16.9	5.04	325	21.4	99K

Comments (weather conditions, odor, color, silt, etc.):_____

Mostly cloudy, Low 40's

Signature: [Signature] Date: 12-27-05

QA/OC Sign Off: [Signature] Date: 12-30-05

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: WCA Material Recovery, UC PERMIT NO. 92-31

LOCATION: MW-2 DATE: 12-27-05

INSPECTOR: J. Kerly COMPANY: Soyce Engineering, Inc.

1. Is surface water diverted away from the well head? Yes
2. Is the concrete pad still intact and free of cracks? Pad buried
3. Has surface water runoff undercut the concrete pad? No
4. Is the outer casing still secure and locked? Yes
5. Is the well identification tag present and is it legible? Yes
 - 5a. Does the well identification tag provide the following information:
 - . The well identification number? Yes
 - . Drilling contractor name and registration number? Registration Only
 - . Total depth of well? Yes
 - . Depth to screen? Yes
 - . A warning that the well is not for water supply and that the ground water may contain hazardous materials? Yes
6. Is the grout between the inner and outer well casings all the way to the ground surface? Yes
7. Is the inner casing firmly grouted in place? Yes
8. Are the inner and outer casings upright and unobstructed? Yes
9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? No
10. Is the monitoring well accessible by a four-wheel drive vehicle? No
11. Have brush and weeds been trimmed so that the well is easy to locate and access? Yes
12. Does the inner well casing have a vented cap? Yes
13. Is the monitoring well visible and adequately protected from moving equipment?
Visible but no protection.

DATE: 12/27/05**GROUND WATER SAMPLING LOG**Project Name: Material Recovery, LLC Project No./Task No.: 710.05Well ID: MW-3 Sampler(s): J. Kerly/M. OsborneWell Location: Northeast side of landfill past MW-2Well Diameter: 2 inchesInitial Depth to Water (DTW): 26.90 feetDepth to Bottom (DTB): 34.50 feetWater Column Thickness (WCT): 7.60 feet [DTB-DTW]**Calculation for One Well Volume (WV):**For 2" Well: WCT X 0.163 = 1.24 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 3.72 gallonsActual Amount Purged/Bailed : 3.72 gallonsPurged with: Disposable BailerSampled with: " "Depth to Water before Sampling : 26.88 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	10:07	15.7	4.55	609	3.68	MO
1.24	10:10	15.9	4.37	813	+1000	MO
2.48	10:13	15.6	4.39	766	+1000	MO
3.72	10:16	15.8	4.38	759	+1000	MO
Before Sampling	12:45	15.8	4.46	710	19.0	MO

Comments (weather conditions, odor, color, silt, etc.): _____

12/27/05: Mostly Cloudy, Cool, 40's* Parameters taken after SamplingSignature: Matthew Osborne Date: 12/27/05QA/QC Sign Off: [Signature] Date: 12-30-05

GROUNDWATER MONITORING WELL MAINTENANCE RECORDFACILITY: WKA Material Recovery, LLC PERMIT NO. 92-31LOCATION: MW-3DATE: 12/27/05INSPECTOR: Matthew OsborneCOMPANY: Joyce Engineering

1. Is surface water diverted away from the well head? YES
2. Is the concrete pad still intact and free of cracks? YES
3. Has surface water runoff undercut the concrete pad? NO
4. Is the outer casing still secure and locked? YES
5. Is the well identification tag present and is it legible? YES
- 5a. Does the well identification tag provide the following information:
 - . The well identification number? YES
 - . Drilling contractor name and registration number? registration only
 - . Total depth of well? YES
 - . Depth to screen? YES
 - . A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES
6. Is the grout between the inner and outer well casings all the way to the ground surface? YES
7. Is the inner casing firmly grouted in place? YES
8. Are the inner and outer casings upright and unobstructed? YES
9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO
10. Is the monitoring well accessible by a four-wheel drive vehicle? YES
11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES
12. Does the inner well casing have a vented cap? YES
13. Is the monitoring well visible and adequately protected from moving equipment?

Visible but not protected

DATE: 12-27-05**GROUND WATER SAMPLING LOG**Project Name: Material Recovery, LLC Project No./Task No.: 710.05Well ID: MW-4 Sampler(s): J. Kelly / M. OsbornWell Location: Backside of landfill near sed. pond.

Well Diameter: 2 inches
Initial Depth to Water (DTW): 11.68 feet
Depth to Bottom (DTB): 27.00 feet
Water Column Thickness (WCT): 15.32 feet [DTB-DTW]

Calculation for One Well Volume (WV):For 2" Well: WCT X 0.163 = 2.50 gallonsFor 4" Well: WCT X 0.653 = gallonsFor THREE Well Volumes: WV X 3 = 7.50 gallonsActual Amount Purged/Bailed : 7.50 gallonsPurged with: Disposable BailerSampled with: " "Depth to Water before Sampling : 11.70 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	1053	16.9	5.23	138.9	57.0	JK
2.50	1058	17.4	5.27	160.0	71000	JK
5.00	1103	17.2	5.27	163.6	71000	JK
7.50	1106	17.4	5.28	165.9	557	JK
Before Sampling	1315	17.0	5.31	147.7	34.4	JK

Comments (weather conditions, odor, color, silt, etc.): Partly Cloudy, 40's, slight breezeParameters taken after samplingSignature: [Signature] Date: 12-27-05QA/QC Sign Off: [Signature] Date: 12-30-05

GROUNDWATER MONITORING WELL MAINTENANCE RECORDFACILITY: WCA Material Recovery LLC PERMIT NO. 92-31LOCATION: mw-4 DATE: 12-27-05INSPECTOR: J. Kelly COMPANY: Joyce Engineering Inc.

1. Is surface water diverted away from the well head? Yes
2. Is the concrete pad still intact and free of cracks? Yes
3. Has surface water runoff undercut the concrete pad? No
4. Is the outer casing still secure and locked? Yes
5. Is the well identification tag present and is it legible? Yes
 - 5a. Does the well identification tag provide the following information:
 - The well identification number? Yes
 - Drilling contractor name and registration number? Registration only
 - Total depth of well? Yes
 - Depth to screen? Yes
 - A warning that the well is not for water supply and that the ground water may contain hazardous materials? Yes
6. Is the grout between the inner and outer well casings all the way to the ground surface? Yes
7. Is the inner casing firmly grouted in place? Yes
8. Are the inner and outer casings upright and unobstructed? Yes
9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? No
10. Is the monitoring well accessible by a four-wheel drive vehicle? No
11. Have brush and weeds been trimmed so that the well is easy to locate and access? Yes
12. Does the inner well casing have a vented cap? Yes
13. Is the monitoring well visible and adequately protected from moving equipment?
Visible but not protected.

DATE: 12/27/05

GROUND WATER SAMPLING LOG

Project Name: Material Recovery, LLC Project No./Task No.: 710.05

Well ID: mw-5 Sampler(s): J. Kerley / M. Osborne

Well Location: Back corner of landfill past sed. pond

Well Diameter: 2 inches

Initial Depth to Water (DTW): 10.00 feet

Depth to Bottom (DTB): 24.00 feet

Water Column Thickness (WCT): 14.00 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.28 gallons

For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 6.84 gallons

Actual Amount Purged/Bailed : 6.84 gallons

Purged with: Disposable Bailer

Sampled with: _____

Depth to Water before Sampling : 10.04 feet

Gallons	Time	Temp(°C)	pH	Cond. (µS)	Turb.(ntu)	Initials
0	11:20	15.1	5.77	81.7	162	MO
2.28	11:25	14.9	5.82	83.5	+1000	MO
4.56	11:30	15.0	5.80	82.4	+1000	MO
6.84	11:35	14.8	5.88	82.6	+1000	MO
Before Sampling	13:35	14.6	5.83	81.7	+1000	MO

Comments (weather conditions, odor, color, silt, etc.):_____

12/27/05: Mostly Cloudy, Cool, 40's

Parameters taken after sampling

Field Blank @ 13:45

Signature: Matthew Osborne Date: 12/27/05

QA/QC Sign Off: Date: 12-30-05

GROUNDWATER MONITORING WELL MAINTENANCE RECORD

FACILITY: ^{WCA}~~WAC~~ Materials Recovery, LLC PERMIT NO. 92-31
 LOCATION: MW-5 DATE: 12/27/05
 INSPECTOR: Matthew Osborne COMPANY: Joyce Engineering

1. Is surface water diverted away from the well head? YES
2. Is the concrete pad still intact and free of cracks? YES
3. Has surface water runoff undercut the concrete pad? NO
4. Is the outer casing still secure and locked? YES
5. Is the well identification tag present and is it legible? YES
- 5a. Does the well identification tag provide the following information:
 - . The well identification number? YES
 - . Drilling contractor name and registration number? Registration only
 - . Total depth of well? YES
 - . Depth to screen? YES
 - . A warning that the well is not for water supply and that the ground water may contain hazardous materials? YES
6. Is the grout between the inner and outer well casings all the way to the ground surface? YES
7. Is the inner casing firmly grouted in place? YES
8. Are the inner and outer casings upright and unobstructed? YES
9. Is water collecting in the outer casing? Does a weep hole need to be bored in the outer casing to provide drainage? NO
10. Is the monitoring well accessible by a four-wheel drive vehicle? YES
11. Have brush and weeds been trimmed so that the well is easy to locate and access? YES
12. Does the inner well casing have a vented cap? YES
13. Is the monitoring well visible and adequately protected from moving equipment?
Visible but not protected



DATE: 12/27/05

SURFACE WATER MONITORING LOG

Project Name: Material Recovery, LLC Project/Task No.: 710.05

Surface Point ID: SW-1 Sampler(s): J Kerly / M. Osborne

Location: Upstream of P-15 & P-1D northwest property boundary

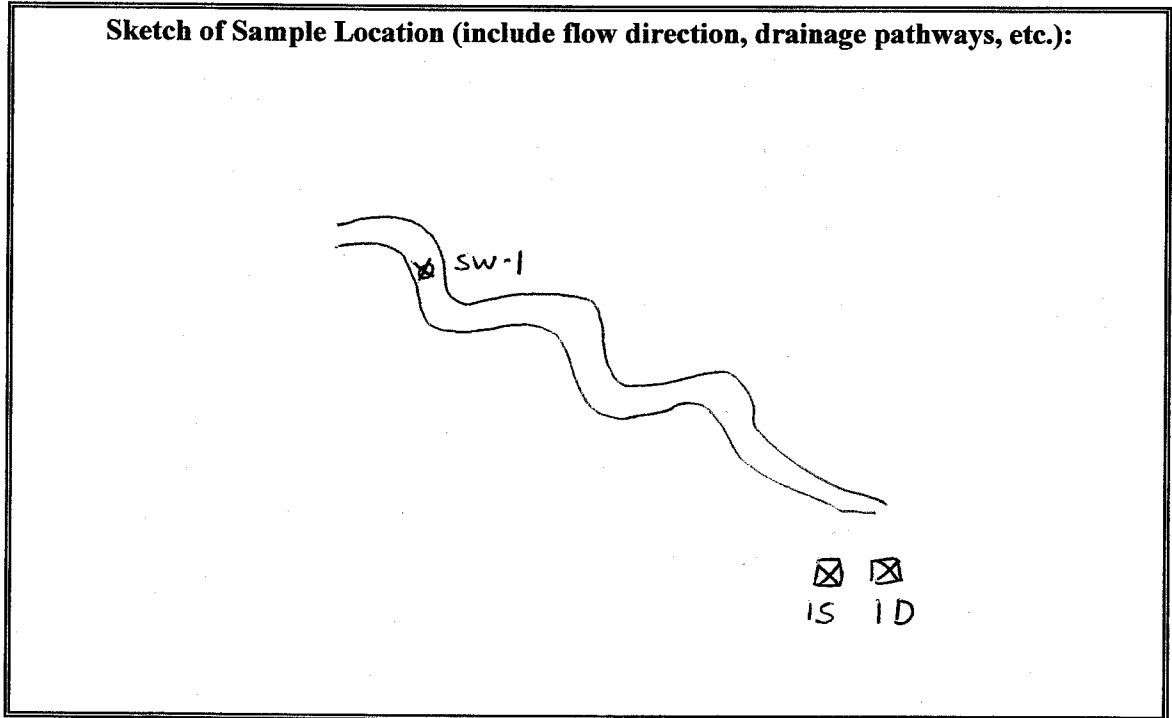
Field Parameters:

Time of Sampling: 11:55
pH: 6.20
Temperature : 9.7 (°C)
Conductivity : 150 (µS)
Turbidity : 10.4 (ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

12/27/05: Mostly Cloudy, Cool, 40's

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: Matt Osborne Date: 12/27/05

QA/QC Sign Off: [Signature] Date: 12-30-05



DATE: 12-27-05

SURFACE WATER MONITORING LOG

Project Name: Material Recovery, LLC Project/Task No.: 710.05

Surface Point ID: SW-2 Sampler(s): J. Kerly / M. Osborne

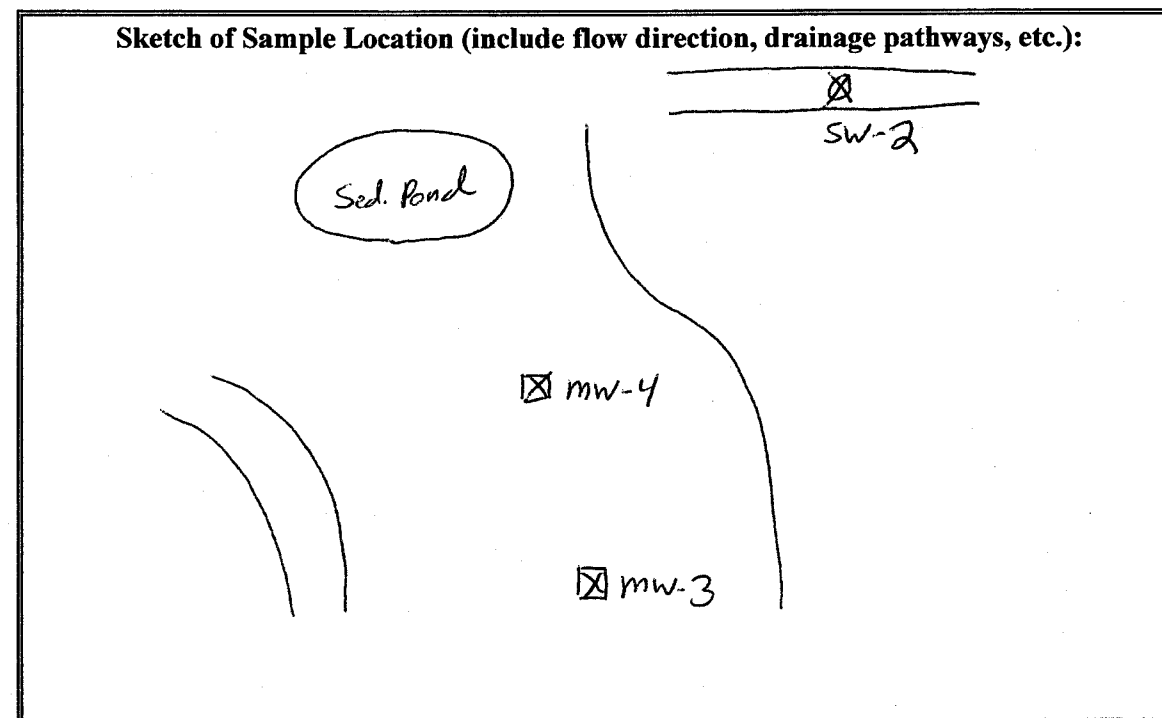
Location: Between mw-3 & mw-4 in woods.

Field Parameters:

Time of Sampling: 1305
pH: 6.21
Temperature: 8.7 (°C)
Conductivity: 124.3 (µS)
Turbidity: 9.43 (ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

Sunny, SO'S, slight breeze



Signature: [Signature] Date: 12-27-05

QA/QC Sign Off: [Signature] Date: 12-30-05

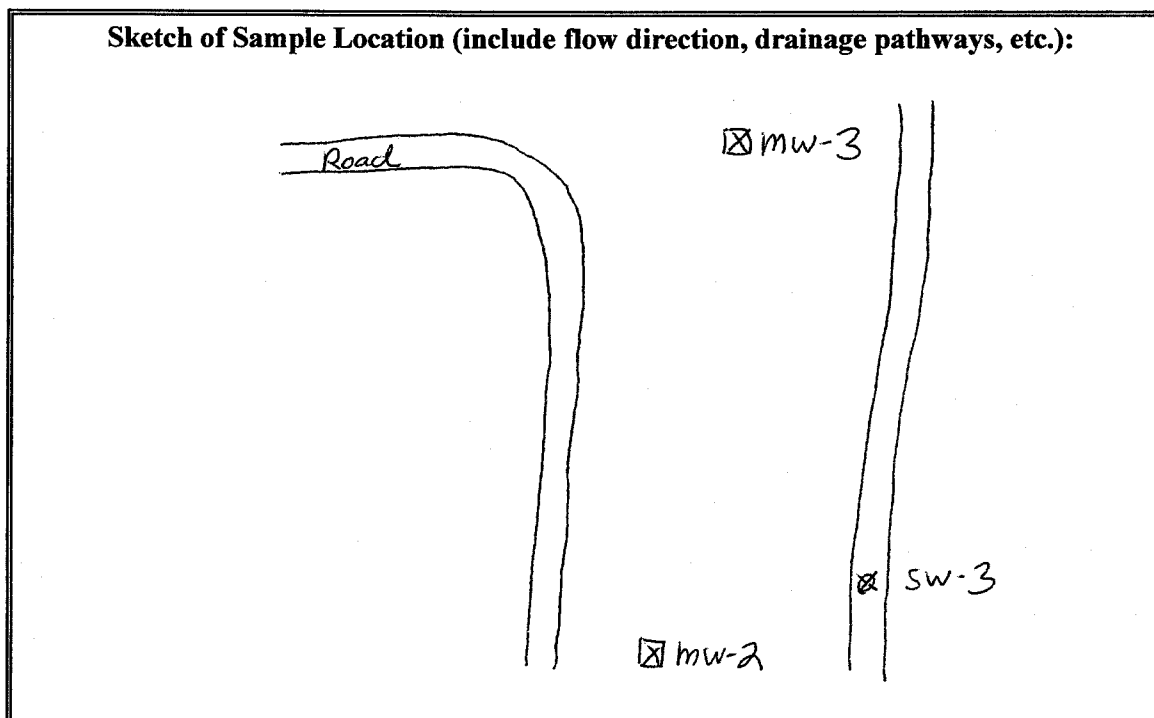
DATE: 12/27/05**SURFACE WATER MONITORING LOG**Project Name: Material Recovery, LLC Project/Task No.: 710.05Surface Point ID: SW-3 Sampler(s): J. Kerly / M. OsborneLocation: Stream past mw-2**Field Parameters:**

Time of Sampling:	<u>10:00</u>	
pH:	<u>6.10</u>	
Temperature :	<u>8.7</u>	(°C)
Conductivity :	<u>361</u>	(µS)
Turbidity :	<u>3.85</u>	(ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

12/27/05: Mostly Cloudy, Cool, 40's

Sketch of Sample Location (include flow direction, drainage pathways, etc.):

Signature: Matthew Osborne Date: 12/27/05QA/QC Sign Off: J. Ky Date: 12-30-05